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PATENT

Atty. Dkt. No. ASPU0002.C1

Serial No.: 10/782,340

MAR 23 2007

IN THE CLAIMS:

Please amend claims 1, 6, and 27, cancel claims 46-57 without prejudice, and add claims 58-63 as follows:

1. (Currently Amended) A surface imprint composition comprising a matrix material defining imprint cavities of a template molecule, wherein the imprint cavities are formed by contacting with a conjugate molecule, the conjugate molecule includes a tail moiety and a template moiety constituting the template molecule and wherein a substantial fraction of the imprint cavities are oriented and localized at or near the surface of the matrix material.
2. (Original) The surface imprint of claim 1 in which the matrix material comprises a polymer.
3. (Original) The surface imprint of claim 2, wherein the polymer comprises a polymerized monomer selected from the group consisting of styrene, methyl methacrylate, 2-hydroxyethyl methacrylate, 2-hydroxyethyl acrylate, methyl acrylate, acrylamide, vinyl ether, vinyl acetate, divinylbenzene, ethylene glycol dimethacrylate, ethylene glycol diacrylate, pentaerythritol dimethacrylate, pentaerythritol diacrylate, N,N'-methylenebisacrylamide, NN'-ethylenebiacrylamide, N,N'-(1,2-dihydroxyethylene) bis-acrylaxnide, trimethylolpropane trimethacrylate and vinyl cyclodextrin.
4. (Currently Amended) The surface imprint of claim 1 in which the matrix material comprises a heat-sensitive compound capable of undergoing a change of physical state by heat.
5. (Original) The surface imprint of claim 4, wherein the heat-sensitive compound is selected from the group consisting of hydrogels, agarose, gelatins and moldable plastics.

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6. (Currently Amended) The surface imprint composition of claim 1, wherein the template molecule ~~corresponds to~~ comprises a portion of a macromolecule of interest.
7. (Original) The surface imprint composition of claim 6 further including the macromolecule bound at an imprint cavity.
8. (Original) The surface imprint composition of claim 6, wherein the template molecule corresponds to a terminal portion of the macromolecule.
9. (Withdrawn) The surface imprint composition of claim 6, wherein the macromolecule is a polynucleotide and the template molecule is an oligonucleotide.
10. (Withdrawn) The surface imprint composition of claim 6, wherein the macromolecule is a polypeptide and the template molecule is an oligosaccharide.
11. (Original) The surface imprint composition of claim 6, wherein the macromolecule is a polypeptide and the template molecule is a peptide.
12. (Original) The surface imprint composition of claim 10, wherein the sequence of the peptide corresponds to a contiguous sequence of the polypeptide.
13. (Original) The surface imprint composition of claim 11, wherein the peptide is between 3 and 15 amino acids in length.
14. (Original) The surface imprint composition of claim 11, wherein the peptide is between 4 and 15 amino acids in length.
15. (Original) The surface imprint composition of claim 11, wherein the peptide is between 4 and 7 amino acids in length.
16. (Original) The surface imprint composition of claim 11, wherein the portion of the

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polypeptide comprises the C-terminus of the polypeptide.

17. (Original) The surface imprint composition of claim 1 in which the matrix material defines imprint cavities of at least two different template molecules.
18. (Original) The surface imprint composition of claim 17 in which at least one of the template molecules corresponds to a portion of a macromolecule.
19. (Original) The surface imprint composition of claim 17 in which cavities are arranged in a spatially identifiable array.
20. (Original) A plurality of surface imprint compositions according to claim 1.
21. (Original) The plurality of surface imprint compositions of claim 20 in which each surface imprint composition of the plurality is unique.
22. (Original) The plurality of surface imprint compositions of claim 20 in which each surface imprint composition comprises a plurality of different cavities.
23. (Original) The plurality of surface imprints of claim 20 which are arranged in a spatially identifiable array.
24. (Original) The array of claim 23 which is one-dimensional.
25. (Original) The array of claim 23 which is two-dimensional.
26. (Withdrawn) The array of claim 23 which is three-dimensional.
27. (Currently Amended) A surface imprint composition comprising a matrix material defining imprint cavities of a template molecule, wherein the imprint cavities are formed by contacting with a conjugate molecule, the conjugate molecule includes a tail moiety

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and a template moiety constituting the template molecule and wherein a substantial
fraction of the imprint cavities are oriented.

28-57. (Cancelled)

58. (New) The surface imprint composition of claim 1, wherein the tail moiety is capable of partitioning in a different phase from a phase of the template moiety in a two-phase system with two immiscible solvents.

59. (New) The surface imprint composition of claim 1, wherein the tail moiety of the conjugate molecule comprises an immobilized solid support.

60. (New) The surface imprint composition of claim 1, wherein the conjugate molecule further comprises a linker.

61. (New) The surface imprint composition of claim 27, wherein the tail moiety is capable of partitioning in a different phase from a phase of the template moiety in a two-phase system with two immiscible solvents.

62. (New) The surface imprint composition of claim 27, wherein the tail moiety of the conjugate molecule comprises an immobilized solid support.

63. (New) The surface imprint composition of claim 27, wherein the conjugate molecule further comprises a linker.